

DOCKET NO.: CELL-0305/PA532-USW01

PATENT



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Application of:

Daniel Christopher Brookings, et al.

Confirmation No.: 3974

Application No.: 10/561,052

Group Art Unit: 1615

Filing Date: October 10, 2006

Examiner: Not Yet Assigned

For: THIENOPHRIDONE DERIVATIVES AS KINASE INHIBITORS

DATE OF DEPOSIT: December 29, 2006

I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO THE UNITED STATES PATENT AND TRADEMARK OFFICE, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

Heather Kite
TYPED NAME: Heather Kite

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR § 1.56 and in accordance with 37 CFR §§ 1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 CFR § 1.56(b).

- ☒ In accordance with § 1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified application, within three months of the date of entry into the national stage of

the above identified application as set forth in § 1.491, before the mailing date of a first Office Action on the merits of the above-identified application, or before the mailing date of a first Office Action after the filing of request for continued examination under § 1.114, no additional fee is required.

- ☐ In accordance with § 1.97(c), this Information Disclosure Statement is being filed after the period set forth in § 1.97(b) above but before the mailing date of either a Final Action under § 1.116 or a Notice of Allowance under § 1.311, or before an action that otherwise closes prosecution in the application, therefore:

☐ Certification in Accordance with § 1.97(e) is attached; or

☐ The fee of \$180.00 as set forth in § 1.17(p) is attached.

- ☐ In accordance with § 1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311 but before, or simultaneously with, the payment of the Issue Fee, therefore included are: Certification in Accordance with § 1.97(e); and the submission fee of \$180.00 as set forth in § 1.17(p).

- ☒ Copies of reference numbers **1 - 31** listed on the attached Form PTO-1449 are enclosed herewith.

- ☐ Copies of reference numbers - on the attached Form PTO 1449 are not required to be submitted pursuant to 37 CFR § 1.98(a)(2)(i).

- ☐ Copies of references - are not being submitted because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application number , filed for which a claim for priority under 35 U.S.C. § 120 has been made in the instant application.

DOCKET NO.: CELL-0305/PA532-USW01
PATENT

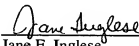
- 3 -

- ☐ The relevance of those listed references which are not in the English language is as follows:

There are no listed references which are not in the English language.

Please charge any deficiency or credit any overpayment to Deposit Account No. 23-3050. This form is submitted in duplicate.

Date: *December 28, 2006*



Jane E. Ingles
Registration No. 48,444

WOODCOCK WASHBURN LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Re Application of:

Daniel Christopher Brookings, et al.

Confirmation No.: 3974

Application No.: 10/561,052

Group Art Unit: 1615

Filing Date: October 10, 2006

Examiner: Not Yet Assigned

For: THIENOPHRIDONE DERIVATIVES AS KINASE INHIBITORS

DATE OF DEPOSIT: December 29, 2006

I HEREBY CERTIFY THAT THIS PAPER IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL, POSTAGE PREPAID, ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO THE UNITED STATES PATENT AND TRADEMARK OFFICE, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450.

TYPED NAME: Heather Kite

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 CFR § 1.56 and in accordance with 37 CFR §§ 1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 CFR § 1.56(b).



In accordance with § 1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified application, within three months of the date of entry into the national stage of

the above identified application as set forth in § 1.491, before the mailing date of a first Office Action on the merits of the above-identified application, or before the mailing date of a first Office Action after the filing of request for continued examination under § 1.114, no additional fee is required.

- ☐ In accordance with § 1.97(c), this Information Disclosure Statement is being filed after the period set forth in § 1.97(b) above but before the mailing date of either a Final Action under § 1.116 or a Notice of Allowance under § 1.311, or before an action that otherwise closes prosecution in the application, therefore:

- ☐ Certification in Accordance with § 1.97(e) is attached; or
☐ The fee of \$180.00 as set forth in § 1.17(p) is attached.

- ☐ In accordance with § 1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311 but before, or simultaneously with, the payment of the Issue Fee, therefore included are: Certification in Accordance with § 1.97(e); and the submission fee of \$180.00 as set forth in § 1.17(p).

- ☒ Copies of reference numbers **1 - 31** listed on the attached Form PTO-1449 are enclosed herewith.

- ☐ Copies of reference numbers - on the attached Form PTO 1449 are not required to be submitted pursuant to 37 CFR § 1.98(a)(2)(i).

- ☐ Copies of references - are not being submitted because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application number , filed for which a claim for priority under 35 U.S.C. § 120 has been made in the instant application.

DOCKET NO.: CELL-0305/PA532-USW01
PATENT

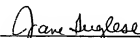
- 3 -

- ☐ The relevance of those listed references which are not in the English language is as follows:

There are no listed references which are not in the English language.

Please charge any deficiency or credit any overpayment to Deposit Account No. 23-3050. This form is submitted in duplicate.

Date: December 28, 2006


Jane E. Ingles
Registration No. 48,444

WOODCOCK WASHBURN LLP
Cira Centre
2929 Arch Street, 12th Floor
Philadelphia, PA 19104-2891
Telephone: (215) 568-3100
Facsimile: (215) 568-3439



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office		Docket No. CELL-0305/ PA532-USw01	Application No. 10/561,052
		Applicant Daniel Christopher Brookings, et al.	
		Filing Date October 10, 2006	Group 1615
		Confirmation No. 3974	
NON-PATENT DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)			
4	Adams, J.L. et al., "p38 MAP kinase: molecular target for the inhibition of pro-inflammatory cytokines," <i>Progress in Medicinal Chemistry</i> , 2001 , 38, 1-60		
5	Adhikari, R., et al., "An adventitious synthesis of 2,2'-dipyrryl disulfides," <i>Aust. J. Chem.</i> , 1999 , 52, 63-67		
6	Allen, M. et al., "Deficiency of the stress kinase p38 α results in embryonic lethality: characterization of the kinase dependence of stress responses of enzyme-deficient embryonic stem cells," <i>J. Exp. Med.</i> , 2000 , 191, 859-869		
7	Badger, A.M., et al., "Pharmacological profile of SB 203580, a selective inhibitor of cytokine suppressive binding protein/p38 kinase, in animal models of arthritis, bone resorption, endotoxin shock and immune function," <i>J. Pharm. Exp. Ther.</i> , 1996 , 279(3), 1453-1461		
8	Chan, D.T. et al., "New N-and-O-arylations with phenylboronic acids and cupric acetate," <i>Tetrahedron Letters</i> , 1998 , 39, 2933-2936		
9	Cohen, P., "The search for physiological substrates of MAP and SAP kinases in mammalian cells," <i>Trends Cell Biol.</i> , 1997 , 7, 353-361		
10	Dinarello, C.A., "An update on human interleukin-1: from molecular biology to clinical relevance," <i>J. Clinical Immunology</i> , 1985 , 5(5), 287-297		
11	Doza, Y.N., et al., "Activation of the MAP kinase homologue RK requires the phosphorylation of Thr-180 and Tyr-182 and both residues are phosphorylated in chemically stressed KB cells," <i>FEBS Lett.</i> , 1995 , 364, 223-228		
11	Ensen, H. et al., "Selective activation of p38 mitogen-activated protein (MAP) kinase isoforms by the MAP kinase kinases MKK3 and MKK6," <i>J. Biol. Chem.</i> , 1998 , 273, 1741-1748		
13	Hale, K.K. et al., "Differential expression and activation of p38 mitogen-activated protein kinase α , β , γ , and δ in inflammatory cell lineages," <i>J. Immun.</i> , 1999 , 162, 4246-4252		
14	Hartwig, J.F., "Transition metal catalyzed synthesis of arylamines and aryl ethers from aryl halides and triflates: scope and mechanism," <i>Agnew Chem. Int. Ed. Engl.</i> , 1998 , 37, 2046-2067		
15	Hedayatullah, M., "Alkylation des pyrimidines en catalyse par transfert de phase," <i>J. Heterocyclic Chem.</i> , 1981 , 18, 339-342 (no English Abstract)		
16	Hunter, T., "Protein kinase classification," <i>Methods in Enzymology</i> , 1991 , Vol 200, Academic Press, San Diego, page 3		

EXAMINER

/Niloofar Rahmani/

DATE CONSIDERED

07/02/2008



Form PTO-1449 Modified List of Patent and Publications Cited by Applicant (Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office	Docket No. CELL-0305/ PA532-USw01	Application No. 10/561,052
	Applicant Daniel Christopher Brookings, et al.	
	Filing Date October 10, 2006	Group 1615
	Confirmation No. 3974	

NON-PATENT DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

17	Jiang, Y., "Characterization of the structure and function of a new mitogen-activated protein kinase (p38 β) et al., <i>J. Biol. Chem.</i> , 1996 , 271(30), 17920-17926
18	Konno, et al., "Improved procedures for preparation of 2-pyridones and 2-hydroxymethylpyridines from pyridine N-oxides," <i>Heterocycles</i> , 1986 , 24(8), 2169-2171
19	Kotlyarov, A. et al., "MAPKAP kinase 2 is essential for LPS-induced TNF- α biosynthesis," <i>Nature Cell Biol.</i> , 1999 , 1, 94-97
20	Lee, J.C. et al., "Bicyclic imidazoles as a novel class of cytokine biosynthesis inhibitors," <i>Annals N.Y. Acad. Sci.</i> , 1993 , 696, 149-170
21	Lee, J.C. et al., "Inhibition of monocyte IL-1 production by the anti-inflammatory compound, SK&F 86002," <i>Int. J. Immunopharm.</i> , 1988 , 10(7), 835-843
22	Lee, J.C. et al., "A protein kinase involved in the regulation of inflammatory cytokine biosynthesis," <i>Nature</i> , 1994 , 372, 739-746
23	Luker, T.J., et al., "Palladium catalyzed amination of electron deficient halophthiophenes," <i>Tetrahedron Lett.</i> , 2001 , 41, 7731-7735
24	McDonnell, P.C. et al., Localization of the human stress responsive MAP kinase-like CSAIDs binding protein (CSBP) gene to chromosome 6p21.3/21.2," <i>Genomics</i> , 1995 , 29, 301-302
25	Sont, J.K., et al., "Fully automated assessment of inflammatory cell counts and cytokine expression in bronchial tissue," <i>Am. J. Respir. Crit. Care Med.</i> , 2003 , 167, 1496-1503
26	Subauste, M.C., et al., "Infection of a human respiratory epithelial cell line with rhinovirus," <i>J. Clin. Invest.</i> , 1995 , 96, 549-557
27	Takekawa, M. et al., "A family of stress-inducible GADD45-like proteins mediate activation of the stress-responsive MTK1/MEKK4 MAPKKK," <i>Cell</i> , 1998 , 95, 521-530
28	Teran, L.M., et al., "Role of nasal interleukin-8 in neutrophil recruitment and activation in children with virus-induced asthma," <i>Am. J. Respir. Crit. Care Med.</i> , 1997 , 155, 1362-1366
29	Turner, R.B., et al., "Association between interleukin-8 concentration in nasal secretions and severity of symptoms of experimental rhinovirus colds," <i>Clin. Infect. Dis.</i> , 1998 , 26, 840-846
30	Wolfe, J.P., et al., "Scope and limitations of the Pd/BINAP-catalyzed amination of aryl bromides," <i>J. Org. Chem.</i> , 2000 , 65, 1144-1157

EXAMINER

/Niloofer Rahmani/

DATE CONSIDERED

07/02/2008

